

(d) waiting for said interrupt;
 (e) automatically checking for a file in a removable storage media located in said peripheral on occurrence of said interrupt, said removable storage media being encoded with electronic content including said file, wherein said file has a predetermined name;
 (f) automatically disabling said interrupt; and
 (g) automatically using at least a portion of said electronic content from said removable storage media in response to finding said file during said checking step.

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Cont.

125. (New) The method of Claim 124 wherein at least said steps (d) and (e) are repeated.

126. (New) The method of Claim 124 wherein at least said steps (c), (d), (e), (f) and (g) are repeated.

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127. (New) The method of Claim 124 further comprising:
 automatically checking a plurality of peripherals in said host device; and
 storing into a variable a name of one of said plurality of peripherals, wherein said one peripheral holds said removable storage media containing said file.

REMARKS

Applicants' election made on January 18, 1996 to prosecute Group I Claims 63-73 is hereby affirmed. Group II Claims 74-76 are canceled without prejudice, and Applicants reserve the right to prosecute the canceled claims in a divisional application in future.

The title is amended, as required by the Examiner, to conform to claims being prosecuted in the current application.

that is a divisional of the parent application, Serial No. 08/269,492, filed July 1, 1994. The specification is amended at page 2, lines 26-28 to delete an inadvertent error. The specification is also amended to capitalize the trademarks "Microsoft" and "Apple" as suggested by the Examiner. The specification is also amended at page 42 to insert the patent number and thereby update the status as suggested by the Examiner.

The Examiner objected to the drawings under 37 C.F.R. §1.83(a) and required submission of a proposed drawing correction to "show every feature of the invention specified in the claims" (see page 4, ¶ 8 of the above-identified Office Action). The Examiner stated:

Therefore, the method steps of displaying a selection of the encoded electronic content on the removable storage media, inserting the removable storage media after the enabling step, disabling the interrupt prior to the step of executing, waiting for the interrupt subsequent to the step of starting up and executing the file of the predetermined name subsequent to the step of loading must be shown or the feature canceled from the claim. **No new matter** should be entered. Moreover, the drawings are objected to by the Draftsman as being informal (see PTO-948). Id.

FIG. 5B is amended at step 515 to illustrate insertion of a removable storage media, as shown in red ink in the attached drawing. Support for the amendment to FIG. 5B can be found throughout the specification, including, for example, page 43, lines 4-14 and page 51, line 33 to page 52, line 2 (quoted below).

An alternative embodiment of the software driver of FIG. 5B is illustrated in FIG. 5C which has not been amended to illustrate the insertion of a removable storage media. Such an "insertion" step in FIG. 5C can occur at any point of a loop that is used to periodically check all removable storage media peripherals, as illustrated by steps 547-556 and 571.

All other steps objected to by the Examiner are amply illustrated in the originally filed drawings. Specifically, a

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displaying step is illustrated by steps 582-585 (FIG. 5E), a disabling step is illustrated by steps 527 (FIG. 5B) and 566 (FIG. 5C), a step of waiting for interrupt is illustrated by steps 515 (FIG. 5B) and 547 (FIG. 5C), and a step of executing a file is illustrated by steps 529 (FIG. 5B) and 568 (FIG. 5C). Applicants submit that these and other illustrations (e.g. FIGs. 5A-5H) are sufficient for a person of skill in the art of computer science (at the level of skill evidenced by the Examiner-cited references) to understand the invention in view of corresponding text in the specification (e.g. as discussed below). Therefore Applicants respectfully request the Examiner to withdraw the objection to the drawings.

The Examiner objected to the specification under 35 U.S.C. § 112, first paragraph, for failing to provide an adequate written description of the invention. The Examiner stated at page 5, ¶ 9 of the above-identified Office Action:

The references for the claimed method steps of displaying a selection of the encoded electronic content on the removable storage media (as per claim 64), inserting the removable storage media after the enabling step (as per claim 69), disabling the interrupt prior to the step of executing (as per step 71), waiting for the interrupt subsequent to the step of starting up (as per claim 72) and executing the file of the predetermined name subsequent to the step of loading (as per claim 73) are unclear.

The Examiner also stated on page 5, ¶ 10 of the Office Action:

Claims 64, 69 and 71-73 are rejected under 35 U.S.C. § 112, first paragraph, for the reasons set forth in the objection to the specification.

Applicants respectfully submit that all the steps objected to by the Examiner are described in the originally filed specification. Specifically the step of "displaying a selection" is described throughout the specification, including, for example, the following text (emphasis added):

As used herein, the term "**display**" is intended to mean presenting one or more selections by the host device in a form suitable for use by a human on a **display** device such as a monitor/screen, a speaker/headset or a

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printer. **Display** includes running a software program, playing a sound recording (through a speaker/headset), showing a video recording (on a monitor/screen) and printing a graphics image (on a printer). (Specification at page 18, lines 24-32)

As used herein, the term "selection" is intended to mean data and/or code and includes a grouping or combination of one or more files such as software, still graphics, picture, text, audio recording, video recording or other data related to one another, suitable for **display** by a host device. (Specification at page 16 line 34 to page 17, line 3).

Pressing a button causes the application to **display** a video recording selection of the desired object (such as a train button for a train video). (Specification at page 10, lines 15-18).

FIG. 1G illustrates the **display** of electronic content on the monitor of a host device controlled by the remote control illustrated in FIGs. 1B and 1C. (Specification at page 11, lines 33-35).

Hence, soon after a button on the remote control is pressed, the title screen of the interactive media is **displayed** by the host device. (Specification at page 7, lines 25-27).

In one embodiment, pressing a button causes the host device to retrieve the associated electronic content for the next page and **display** the results of retrieval or appear to the user to "turn" the page (or initiate other actions). (Specification at page 6, lines 16-21).

In one embodiment, on receipt of the button code, the application computes the next page address from the current page address, retrieves from associated electronic content 133C, the electronic content for the next page and **displays** the retrieved electronic content on host device 120. Such a **display** causes the image of a title screen on monitor 122 to be replaced by the image of the first page of the interactive media, or causes a first page image to be replaced by a second page image and so on, depending on the image being **displayed** when the button code was received. (Specification at page 26, lines 4-14).

The step of "inserting the removable storage media" is also described throughout the specification, including, for example, the following text (emphasis added):

The storage media can be **inserted** into a suitable peripheral of a host device (such as a personal computer, a game machine or interactive television). (Specification at page 5, lines 4-14).

In the embodiment of the remote control including a removable storage media, the host device autostart driver, on finding a storage media of a remote control in a local peripheral, checks the **inserted** storage media for a file of a first

predetermined name. (Specification at page 7, lines 4-14).

Therefore when the autostart driver is installed in a host device, compatible applications start up automatically, as soon as a storage media is **inserted** into the drive. Automatic start-up of an application on **insertion** of a storage media allows even pre-school children to use applications encoded on a storage media without adult supervision. (Specification at page 8, lines 4-14).

In accordance with this invention, a user, such as a two year old child, can remove storage media 119 (FIG. 1D) from housing 118 of a remote control 110 and **insert** storage media 119 into a host device's peripheral 124B (FIG. 1E). As soon as storage media 119 is **inserted**, an application automatically starts and the interactive media's title screen is retrieved from storage media 119 and displayed on monitor 122 of host device 120. (Specification at page 30, lines 4-14).

Storage media 428M is a local storage media which was removed by a user from a remote control and **inserted** into removable storage media peripheral 428, storage media 428M includes three files: DISGOKEY.EXE 429, DISGO.BAT 430, and BUSWEEK.EXE 431 (described below). (Specification at page 38, lines 4-14).

To facilitate automatic detection of **insertion** of a storage media, a host device is installed during booting with an autostart driver which periodically polls one or more peripherals of the host device. In an alternative embodiment, the autostart driver is invoked by an interrupt from a removable storage media peripheral caused by **insertion** of a storage media into the peripheral. (Specification at page 43, lines 4-14).

In one embodiment of this invention, an autostart driver in a host device 120 detects **insertion** of a storage media and upon detection of a storage media such as CD-ROM 119 in a peripheral, seeks a file having a first predetermined name such as, the unique symbol DISGO™. (Specification at page 44, lines 4-14).

A removable storage media peripheral is any peripheral of a host device into which a storage media can be removably and repeatedly **inserted** and with drawn, for example drive A, drive B and a CD drive of an IBM PC host device 120. (Specification at page 45, lines 4-14).

Therefore once a host device is powered up, booted and installed with an autostart driver, a user need not touch any keys or switches of a host device, and can merely insert a storage media to start an application in accordance with this invention. (Specification at page 51, line 33 to page 52, line 2).

The step of "disabling the interrupt" is also described throughout the specification, including, for example, the following text (emphasis added):

Then autostart driver 510 **disables** the interrupt that were enabled in step 513. The **disabling** of interrupts allows autostart driver 510 to execute an application without being interrupted by user insertion of a removable storage media. (Specification at page 47, lines 8-12).

In step 566 autostart driver 540 stores the name of the peripheral in which DISGO.BAT was found in variable X and **disables** the timer interrupt enabled in step 535. (Specification at page 50, lines 7-10).

The step of "waiting for the interrupt" is also described throughout the specification, including, for example, the following text (emphasis added):

Then autostart driver 510 goes via branch 514 to step 515. In step 515, autostart driver 510 **waits** for an interrupt from a removable storage media peripheral. Then on receipt of an interrupt, autostart driver 510 goes via branch 516 to decision box 517. (Specification at page 45, line 35 to page 46, line 3).

Autostart driver 540 is similar to autostart driver 510 except that instead of setting up and **waiting** on interrupts from removable storage media peripherals, autostart driver 540 sets up a timer interrupt and **waits** on the timer interrupt, thereby periodically checking the peripherals of a host device such as host device 120. (Specification at page 48, lines 16-22).

Then autostart driver 540 goes via branch 546 to step 547. In step 547 autostart driver 540 **waits** for a timer interrupt. Then autostart driver 540 on receiving an interrupt from the timer (which occurs after one second, the timer period set in step 543) autostart driver 540 goes via branch 548 to step 549. (Specification at page 48, lines 29-34).

The step of "starting up" objected to by the Examiner has been eliminated by amendment of Claim 72 (above), although described in the specification at page 47, line 20 (and claimed in new Claim 110). The step of "executing the file" is also described throughout the specification, including, for example, the following text (emphasis added):

If the file of the first predetermined name exists, the autostart driver automatically **executes** the file which in turn starts the appropriate application. The application automatically displays the title screen on the monitor of the host device. (Specification at page 7, line 36 to page 8, line 5).

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FIG. 5D illustrates the commands for starting an application in the DISGO.BAT file **executed** by the software driver of FIGs. 5A, 5B and 5C. (Specification at page 12, lines 30-32).

In one embodiment of this invention, the file with second predetermined name is **executed** by a user manually. In another embodiment of this invention, the file with second predetermined name is **executed** by an autostart driver of a host device. (Specification at page 45, lines 1-5).

In step 529 autostart driver 510 executes the command X:DISGO.BAT which **executes** instructions in DISGO.BAT of the removable storage media inserted by a user into the peripheral of host device 120. (Specification at page 47, lines 13-17).

In another embodiment of this invention, in step 529, instead of the autostart driver **executing** the instructions in DISGO.BAT as shown in FIG. 5B, the autostart driver starts up or spawns a new process which **executes** the instructions in DISGO.BAT. (Specification at page 47, lines 32-36).

On receipt of the autostart interrupt, the central processing unit **executes** the file of the second predetermined name from the peripheral which generated the autostart interrupt. (Specification at page 51, lines 4-7).

As described above, when storage media 649 is inserted into CD drive 122 of host device 120, a security key stored in DISGOKEY.EXE 429 is first confirmed and then, DISGO.BAT 430 is **executed**. DISGO.BAT 430 starts up an application 860, included in BUSWEEK.EXE 431. (Specification at page 79, lines 20-25).

Therefore, Applicants respectfully request the Examiner to withdraw the objection to the specification under 35 U.S.C. §112, first paragraph and also the rejection of Claims 64, 69 and 71-73 for the above described reasons.

The Examiner rejected Claims 64 and 68-72 in the above-identified Office Action, on page 5, ¶ 11, stating:

Claims 64 and 68-72 are rejected under 35 U.S.C. § 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as invention. As per claims 64, 68 and 71, the recitation therein is unclear and confusing. It is not understood as to what the selection is being referred to and how the selection is being displayed without any instrumental element of the display means (as per claim 64). It is also not understood as to which "executing step" (as per claims 68 and 71) is being referred to. Is it referred to the step of executing firmware from the read only memory, or the step of executing the initialization file, or the step of executing the file of the predetermined name in the removable storage media? In addition, as per

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claim 72, the antecedent basis for "said starting up" (as per claim 72) is lacking.

"[T]he selection" not understood by the Examiner is described throughout the specification including, for example:

As used herein, the term "selection" is intended to mean data and/or code and includes a grouping or combination of one or more files such as software, still graphics, picture, text, audio recording, video recording or other data related to one another, suitable for display by a host device. (Page 16, line 34 to page 17, line 3.)

Regarding the Examiner's remark about the lack of "any instrumental element of the display means (as per claim 64)", Applicants submit that a number of "instrumental elements" are described in the specification, including, for example:

As used herein, the term "display" is intended to mean presenting one or more selections by the host device in a form suitable for use by a human on a display device such as a monitor/screen, a speaker/headset or a printer. Display includes running a software program, playing a sound recording (through a speaker/headset), showing a video recording (on a monitor/screen) and printing a graphics image (on a printer). (Page 18, lines 24-32).

Regarding the "executing step" not understood by the Examiner, Claim 68 explicitly states "step of executing firmware" and Claim 71, as amended, explicitly states "said step of automatically executing said file of said predetermined name." Moreover, as noted above, the term "starting up" objected to by the Examiner has been eliminated from amended Claim 72. Furthermore, Applicants have amended Claims 68-71 to recite "step of" as suggested by the Examiner. Therefore Applicants respectfully request the Examiner to withdraw the rejection of Claims 64 and 68-72 under 35 U.S.C. § 112, second paragraph.

The Examiner also rejected Claims 63-73 under 35 U.S.C. § 102(a) as being anticipated by Willman et al. (U.S. Pat. No. 5,363,487) in the above-identified Office Action, at ¶ 13 on page 7. The Examiner stated:

As per claims 1-3, the broadly claimed structure can be broadly interpreted as the method and system for dynamic volume tracking an installable file system of Willman et al. Figs. 1A-1B of Willman et al. broadly discloses the method for starting up the process in

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the host device having powering up the host device (i.e. turn the power on), disabling the interrupt before executing firmware from the read only memory (106) and booting the operating system (i.e. MS-DOS 204 or OS/2 252) by executing the initialization file, enabling the interrupt and waiting the interrupt either by timer or from the removable peripheral devices (i.e., floppy disk 116, CD-Rom 122 or tape 124), inserting the removable storage media in the peripheral device driver for checking a file of a predetermined name in the removable storage media, loading and executing the electronic content of the predetermined name file encoded in the removable storage media, and displaying the selection (see the abstract and from column 3, line 36 to column 31, line 21).

Willman et al. teach a method and apparatus that "permit a single operating system to access a storage medium formatted in accordance with differing file systems, without reprogramming or otherwise altering the operating system" (abstract).

Willman et al. merely teach "an improvement to computer operating systems wherein file systems may be modified or added to the system without requiring modification of the operating system kernel" (column 2, lines 51-54) (emphasis added).

Although Willman states that the computer system can "automatically adapt to uncertain media without interaction from a user" (column 2, lines 46-48), Willman et al. also state that the automatic step is merely used "to allow I/O to the media" (column 17, line 15). Willman et al. actually require that "a user instructs the system 100 to perform a named operation on a file" (column 29, lines 44-45).

Willman et al. fail to disclose or suggest "automatically checking for a file in a removable storage media ..." and the step of "automatically loading at least a portion of the electronic content ... in response to finding said file" as recited by amended Claim 63. Applicants submit that modifying or adding "file systems" as disclosed by Willman et al. merely involves determining the format of files encoded on a storage media, and requires a user to actually input the name of a file to be loaded (as discussed in the previous paragraph). In contrast, a method according to Claim 63 performs the step of "checking" as well as the step of "loading" automatically,

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without user input of a file name. Such elimination of the need for user input leads to several advantages as discussed in the specification, including, for example:

In accordance with this invention, a user, such as a two year old child, can remove storage media 119 (FIG. 1D) from housing 118 of a remote control 110 and insert storage media 119 into a host device's peripheral 124B (FIG. 1E). As soon as storage media 119 is inserted, an application automatically starts and the interactive media's title screen is retrieved from storage media 119 and displayed on monitor 122 of host device 120. (Page 30, lines 13-21).

Therefore, Applicants respectfully submit that Claim 63 distinguishes over the teachings of Willman et al. Claims 64-73 depend from Claim 63 and also distinguish over Willman et al. for at least the above-discussed reasons. Therefore, Applicants respectfully request the Examiner to withdraw the rejection of Claims 63-73 over Willman et al.

The Examiner rejected Claims 63-73 under 35 U.S.C. § 102(b) as being anticipated by Ogawa et al. (U.S. Pat. No. 4,716,543) in the above-identified Office Action, at ¶ 14 on page 8. The Examiner stated:

As per claims 1, 8, 11 and 18, the broadly claimed structure can also be broadly interpreted as the terminal device editing document and communicating data of Ogawa et al. The teaching of Ogawa et al. broadly discloses the method for starting up the process in the host device having powering up the host device (i.e. turn the power on), disabling the interrupt before executing firmware from the read only memory (142, 144) and booting the operating system by executing the initialization file (OS), enabling the interrupt and waiting the interrupt either by timer (Figs. 30-33) or from the removable peripheral devices (i.e. floppy disk 52, 54), inserting the removable storage media in the peripheral device driver for checking a file of a predetermined name in the removable storage media, loading and executing the electronic content of the predetermined name file encoded in the removable storage media, and displaying the selection (see from column 4, line 9 to column 31, line 9).

Ogawa et al. disclose a "terminal device capable of preparing a document and communicating data" (abstract). Ogawa et al.'s terminal device includes "a system control section having storage means in which are resident a control program ... and a

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supervisor program for alternately practicing the control program and another program necessary for system control" (*Id.*). Ogawa et al. further teach that various operating system programs are started (column 24, lines 16-26) and thereafter, "other programs are selectively practiced by manipulating the keys on the keyboard 10 to input the file name of a selected program. Then, based on the OS, a program corresponding to the file name is read from the floppy disk into the non-resident program area of the D-RAM 821" (column 24, lines 27-33; see also column 24, lines 59-62).

Ogawa et al. fail to disclose or suggest "automatically checking for a file ..." and "automatically loading at least a portion of the electronic content from said removable storage media in response to finding said file ..." as recited by Claim 63. Claim 63 eliminates the need for a user to manipulate "the keys on the keyboard 10 to input the file name" as required by Ogawa et al. The advantages of such elimination have been discussed above in reference to the reasons for the patentability of Claim 63 over the teachings of Willman et al. Therefore, Applicants respectfully request the Examiner to withdraw the rejection of Claim 63 over the teachings of Ogawa et al. For at least the above-discussed reasons, Applicants also respectfully request the Examiner to withdraw the rejection of Claims 64-73 that depend from Claim 63.

New Claims 101-127 are added. Support for Claims 101-127 can be found throughout the originally filed application, including, for example, FIGs. 5B-5E and the related description in the specification including, for example, page 45, line 24 to page 51, line 7; see also page 18, lines 32-34 wherein it is stated:

As used herein, the term "use" is intended to be more than mere display and includes any use whatsoever in a host device.

New Claims 101-127 are patentable over the teachings of Willman et al. or Ogawa et al. either alone or in combination for

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reasons similar to those discussed above in reference to Claim 63.

Therefore, Applicants respectfully submit that Claims 63-73 and new Claims 101-127 are in form for allowance, and allowance thereof is respectfully requested. If the Examiner has any questions regarding any aspect of the application, the Examiner is respectfully requested to telephone the Applicants' attorney at (408) 453-9200.

Respectfully submitted,


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FIG. 3

